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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,439	08/14/2003	John H. Brophy	02-024	2458
34833	7590	02/08/2006	EXAMINER	
FRANK ROSENBERG 18 ECHO HILL LANE MORAGA, CA 94556			PASTERCZYK, JAMES W	
			ART UNIT	PAPER NUMBER

1755

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/642,439	<b>Applicant(s)</b> BROPHY ET AL.	
	<b>Examiner</b> J. Pasterczyk	<b>Art Unit</b> 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,11,24,28,32 and 34-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,11,24,28,32 and 34-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/13/06 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. This Office action is in response to the amendment filed 1/13/06 and refers to the Office action mailed 7/7/05.

2. The drawings are objected to because the new, larger version of figure 3 is not identical to the original version absent the problems found in the original. From the original drawings, it appears as if the width of the well was 17 mm, its length 32 mm, the distance between the two holes at either end 30 mm, and the input and exhaust holes were 5 mm from the edges of either end of the slide in which the well is located. While the numbers used are consistent between the old and new drawing, the actual parameters to which they apply do not appear to be. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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3. Claims 7, 8, 36, 39, 40 and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, only carbon, silica and alumina are specific materials, hence all the others should have indefinite articles before them. In addition, the polymer appears to be organic only as compared to the inorganic polymers silica, alumina etc.

In claim 8, it is not clear that the “surface oxygen” is on the surface of the interior of the microchannel.

In claim 36, “iron based” would still be better phrased --iron containing-- since “based” could be read to mean iron was used in some sort of nuclear bombardment reaction converting the iron into another element.

In claim 39, it is not clear on what the “surface metal or semimetal” is bonded; surface of what?

In claim 40, R is still undefined. While its conventional definition may be alkyl, it has also been used to mean hydrocarbyl, which is a broader definition than just alkyl, hence a more specific definition is required in the claim.

In claim 44, “2 to 9 atoms long” is unclear in that it is not clear if the direct backbone between the two linked moieties is 2-9 atoms or that the entire backbone including sidegroups contains 2-9 atoms.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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5. Claims 1, 5, 7-9, 24, 28, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dai in view of Greenway as cited in and for the reasons of record given in paragraph 5 of the previous Office action.

The limitations of newly-renumbered claim 41 and new claim 42 would have been obvious to achieve with only minor experimentation to one of ordinary skill in the art.

6. Claims 1, 3, 5, 7-9, 24, 32, 34, 39, 40 and 43-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gyraznov in view of Greenway as cited in and for the reasons of record given in paragraph 6 of the previous Office action.

The limitations of new claims 43-48 would have been obvious to one of ordinary skill in the art with only minor experimentation.

7. Claims 4, 6, 11 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gyraznov in view of Greenway as applied to claims 1, 5, 7-9, 24, 28, 41 and 42 above, and further in view of Gavriilidis as cited in and for the reasons of record given in paragraph 7 of the first Office action.

8. Applicant's arguments filed 1/13/06 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

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1992). In this case, Greenway clearly teaches that microreactors offer a variety of benefits (p. 153, right column, bottom) that one of ordinary skill in the art would consider to be useful. As to applicants' contention that "chiral auxiliary" is narrowly defined by their specification, the examiner notes that the present independent claim is drawn to a catalyst system comprising either a tethered catalyst or tethered chiral auxiliary, the latter merely being a catalyst which has a bias toward a particular enantiomer product. Many olefin polymerization catalysts have such biases; making polypropylene of a particular configuration is and has been a major area of research in olefin catalysis, whether the catalyst is a metallocene, Ziegler-Natta, or some other family of compound. In addition, Dai at col. 3, l. 19-20 clearly discloses that increased stereospecificity is a goal of its disclosure.

Regarding the argument that one of ordinary skill in the art would not have known how to coat micropores or channels with a reactive substance, the field of microcapillary gas chromatography would have easily given the routineer in the art guidance on how to overcome this problem. In addition, as to the alleged showing of unexpected results found in the specification, the present claims are far broader than the narrow showings and hence are not commensurate in scope with these showings.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 571-272-1375. The examiner can normally be reached on M-F from 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J. Pasterczyk

AU 1755

2/1/06



J. A. LORENGO  
SUPERVISORY PATENT EXAMINER